2017 Stream Survey Report

NORTH BRANCH LITTLE WOLF RIVER

Rotation (WBIC 273000)

Waupaca County

Prepared by Joe Dax

Introduction and Objectives

The North Branch Little Wolf River is a 12 mile stream with 9.2 mile of Class II trout water. The North Branch Little Wolf River originates east of Iola and flows south-southeast, eventually draining into the Little Wolf River. Six public road crossings provide fishing access to North Branch Little Wolf River. Objectives of the rotation surveys are to determine species composition, relative abundance, and size structure for trout and other gamefish present.

Regulations Category: Green **Size Limit:** Any length **Daily Bag Limit:** 5 (in total)

WISCONSIN DNR CONTACT INFO.

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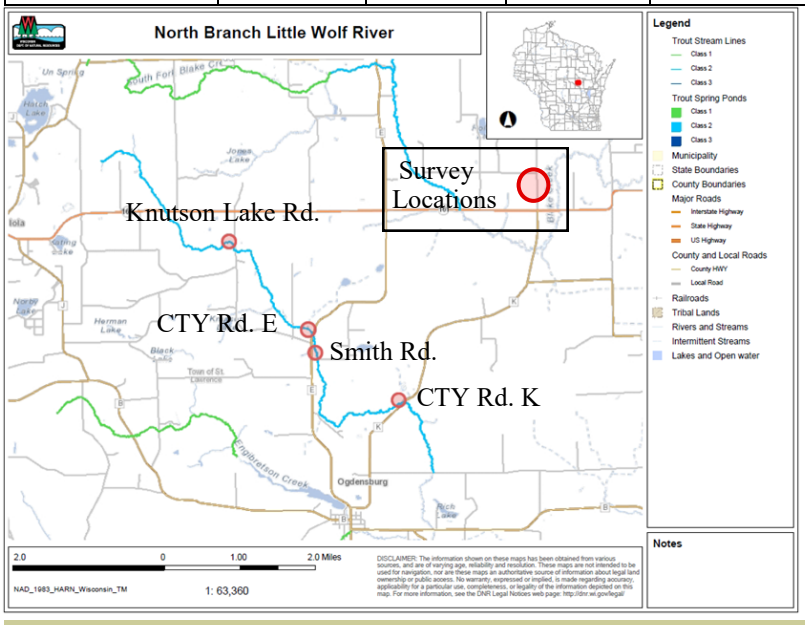
Survey Information

Station	Survey Date	Station Length	Temperature (°F)	Mean Stream Width	GPS (Start/Finish)	Gear	Number of Netters	Index of Biotic Integrity
Smith Rd.	06/27/2017	330 ft	57	8.5 ft	44.48272, -89.04017 44.48368, -89.04033	Tow-Barge Shocker	3	Yes
County Rd. E	06/27/2017	483ft	55	13.8 ft	44.48731, -89.04128 44.48828, -81.04201	Tow-Barge Shocker	3	No
Knutson Lake Rd.	06/27/2017	357 ft	49	10.2 ft	44.50331, -89.06124 44.50364, -89.06207	Tow-Barge Shocker	3	No
County Rd. K	06/27/2017	430 ft	59	12.3 ft	44.47417, -89.07723 44.47371, -89.01792	Tow-Barge Shocker	3	No



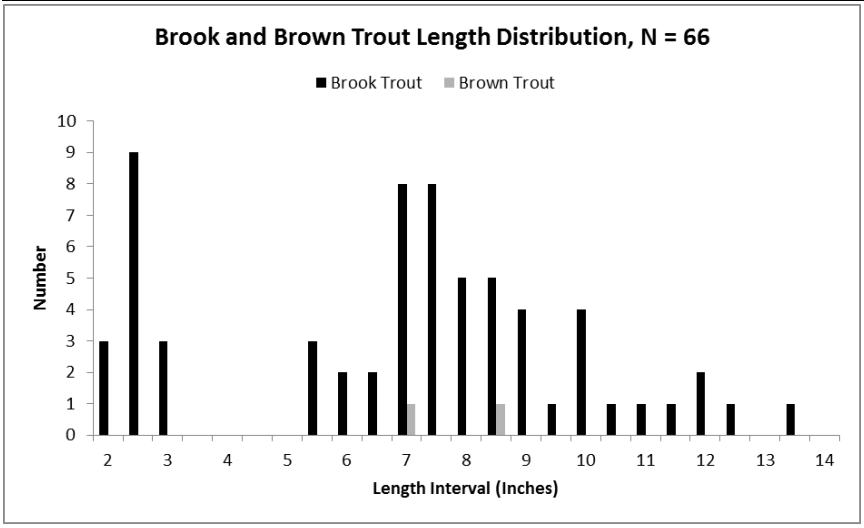
Survey Method

- All streams are sampled according to WDNR wadeable streams monitoring protocols. The North Branch Little Wolf River is on a six year rotation schedule with four sites identified for the segment of stream in Waupaca County.
- All sampling stations are electrofished with either a towed barge shocker (pictured below) or backpack shocker.
- Sampling distance is at least 35 times the mean stream width or a minimum of 330 ft.(100 meters).
- All trout and other gamefish are measured for length and examined for fin-clips.
- In at least one stream segment (if multiple stations are being sampled) all fish species are collected and counted for calculation of an Index of Biotic Integrity (IBI).
- Metrics used to describe trout populations include average length, catch per unit effort (CPUE), and length frequency distributions.

Metric Descriptions

- **Catch per unit effort (CPUE)** is a method of quantifying fish population relative abundance. For all trout surveys, we typically quantify CPUE as the number of a given size class of trout captured per mile of stream. CPUE indexes are compared to other trout streams throughout the state of Wisconsin by what percentile (PCTL) they fall out in . For example, if a CPUE is in the 90th percentile, it is higher than 90% of the other CPUEs in the state. CPUE percentiles can also be used to categorize trout abundance as low density (<33rd percentile), moderate density (33rd - 66th percentile), high density (66th - 90th percentile), and very high density (> 90th percentile).
- **Index of Biotic Integrity (IBI)** is a rating of environmental quality based on the fish assemblage. Scores of 90-100 indicate excellent stream quality while scores less than 30 indicate poor stream quality. Our analysis utilizes the IBI for Wisconsin coldwater streams. Coldwater streams in Wisconsin are those in which the maximum daily mean water temperature is usually <22°C (71.6°F). A coolwater stream IBI may also be used when a stream doesn't fit the temperature criteria for a coldwater stream.
- **Length frequency distribution** is a graphical representation of the number or percentage of fish captured by half inch or one inch size intervals.

Size and Abundance (CPUE) Metrics										
Station	Species	Total Number Sampled	Average Length (inches)	Length Range (inches)	CPUE calculated as the number of trout of a given size per mile (Number in parentheses represents the statewide percentile of a given metric)					
					Total CPUE (PCTL)	YOY CPUE	≥5" CPUE (PCTL)	≥8" CPUE (PCTL)	≥10" CPUE (PCTL)	≥12" CPUE (PCTL)
Smith Rd.	Brook trout	33	7.5	(2.5 - 13.6)	528 (73rd)	111	413 (86th)	238 (97th)	63 (97th)	47 (99th)
County Rd. E	Brook trout	12	8.0	(2.7 - 12.4)	131 (42nd)	22	110 (54th)	66 (81st)	55 (97th)	11 (96th)
Knutson Lake Rd.	Brook trout	19	6.3	(2.1 - 10.4	281 (58th)	88	191 (68th)	74 (82nd)	29 (91st)	-
County Rd. K	Brook trout	0	-	-	-	-	-	-	-	-



Mottled sculpin (pictured above) is a small nongame species commonly found in coldwater streams. Similar to trout they require colder temperatures, are considered thermally intolerant, are sensitive to perturbations such as siltation in the stream, and their presence can be indicative of healthier environmental quality.

Species Community and IBI for Smith Rd.			
Species Sampled	Total	IBI Score	Integrity Rating
BLUEGILL	4	Coldwater: 60	Coldwater: Good
BROOK TROUT	33		
BROWN TROUT	1		
CENTRAL MUDMINNOW	13		
CREEK CHUB	8		
GREEN SUNFISH	1		
JOHNNY DARTER	1		
MOTTLED SCULPIN	16		
NORTHERN PEARL DACE	1		
WHITE SUCKER	5		

Summary

- The North Branch Little Wolf River brook trout density overall was at moderate levels with 5+ inch CPUE in the 54th-86th percentile. However, no brook trout were captured in the lower most section near County Rd. K.
- Young of year (YOY) density was also found at moderate levels.
- The North Branch Little Wolf River has the potential to provide high quality angling experiences as density of larger sized brook trout (i.e., >10 inches) was very high (> 96th percentile) at the Smith Rd. and County Rd. E sample sites. Additionally, a 13.6 inch brook trout was captured at the Smith Rd. site.
- Brown trout were present but occurred in very low numbers, likely not having a significant impact on the native brook trout.
- The fish assemblage sampled in the North Branch Little Wolf River indicated a good overall coldwater environment.